

REMARKS

Favorable reconsideration of this application is requested.

Claims 1-7 and 10-40 remain in the case.

Claims 1-3, 5-7 and 10-12 are the elected claims.

Claims 4 and 13-40 stand withdrawn from consideration as not reading on the elected invention.

With regard to the Examiner's comments about the Information Disclosure Statement submitted May 13, 2003 as failing to be accompanied by a form PTO-1449, it is pointed out to him that this Information Disclosure Statement only submitted a copy of the claims of a co-pending application, thus no form PTO-1449 was appropriate.

With regard to the rejection of the elected claims under 35 U.S.C. § 112, second paragraph, the Examiner's understanding is correct in that "C" represents the element carbon and is unrelated to the designation of compound (C), as further defined in the claims.

Also, R<sup>2</sup> has been further defined, consistent with Claim 8, Claim 8 thus having been canceled.

Also, component (B) has now been specifically defined as being of the formulae (I-8) or (I-9), as so disclosed at page 49, line 8 to page 50, line 17 of the specification.

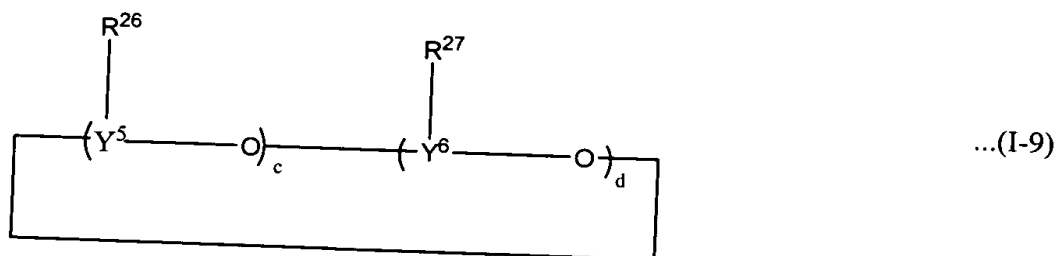
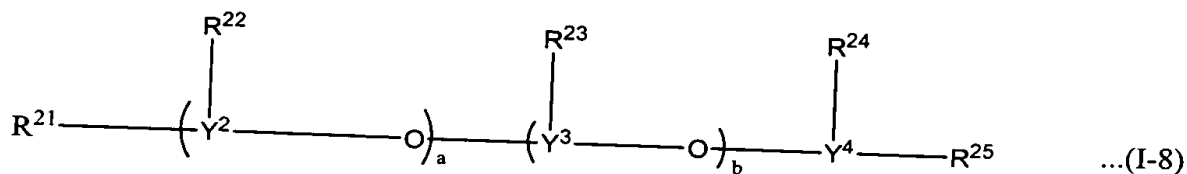
Withdrawal of the rejection of the claims under 35 U.S.C. § 112, second paragraph thus is requested.

The elected claims, i.e., now Claims 1-3, 5-7 and 10-12, stand rejected under 35 U.S.C. § 102(b) as being anticipated by Tomotsu et al., Takeuchi et al., or under 35 U.S.C. § 102(e) as being anticipated by Aoyama et al., Yabunouchi et al. U.S. 5,854,165, Yabunouchi et al. U.S. 6,171,994 B1, or Kashiwamura et al., as well as under the judicially created doctrine of obviousness-type double patenting as being unpatentable over the claims of U.S. Patent No. 6,255,244 B1 or U.S. Patent No. 6,562,918 B1.

These rejections are traversed. The invention relates to a catalyst for polymerization of olefins, which comprises:

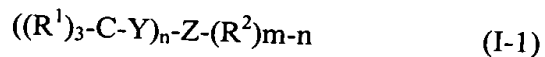
(A) a transition metal compound,

(B) an oxygen-containing compound represented by any of the following general formulae (I-8) to (I-9):



wherein  $R^{21}$  to  $R^{27}$  each represent an alkyl group having from 1 to 8 carbon atoms and may be the same or different, and  $R^{26}$  and  $R^{27}$  may be the same or different,  $Y^2$  to  $Y^6$  each represent an element of Group 13 of the Periodic Table,  $Y^2$  to  $Y^4$  may be the same or different; and  $Y^5$  and  $Y^6$  may be the same or different,  $a$  to  $d$  each indicates a number of from 0 to 50, but  $(a+b)$  and  $(c+d)$  each must be at least 1,

(C) a compound of a general formula (I-1):

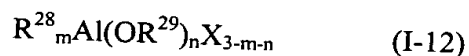


wherein  $R^1$  represents an aromatic hydrocarbon group having from 6 to 30 carbon atoms, an alkoxy group having from 1 to 30 carbon atoms, an aryloxy group having from 6 to 30 carbon atoms, a thioalkoxy group having from 1 to 30 carbon atoms, a thioaryloxy group having from 6 to 30 carbon atoms, an amino group, an amido group, a carboxyl group, or a cyclohexyl group,  $R^1$ 's may be the same or different, and  $R^1$ 's may be optionally bonded to each other to form a cyclic structure;  $Y$  represents an element of Group 16;  $Z$  represents a

metal element of Groups 2 to 13;  $R^2$  represents an alkyl group having at least 2 carbon atoms;  $m$  is an integer, indicating the valency of the metal element  $Z$ ; and  $n$  is an integer of from 1 to  $(m-1)$ ,

and optionally,

(D) an alkylating agent represented by any of the following general formulae (I-12) to (I-14):



wherein  $R^{28}$  and  $R^{29}$  each represent an alkyl group having from 1 to 8 carbon atoms;  $X$  represents a hydrogen atom or a halogen atom,  $0 < m \leq 3.0$   $\leq n < 3$ .

Thus, a rejection for anticipation, within the meaning of 35 U.S.C. § 102, requires completely identity in the prior art. Note *In re Arkely*, 172 USPQ 524. Such clearly is not present here.

Specifically, with regard to Tomotsu et al., at least two material distinct differences are present. Its component (C), disclosed at column 4, line 27 to column 5, line 8, i.e., of its formulas (IV), (V) and (VI), are significantly different from claim component (C), i.e., of the formula (I-1). In the formulas of the reference its  $R^8$  substituent is an alkyl group having from 1 to 8 carbon atoms. Such radical  $R^8$  manifestly is significantly different from radical  $(R^1)_3-C$  in claimed formula (I-1).

Further, component (B), as now so specifically defined in the claims, is not present in the catalyst of Tomotsu et al. Note that component (C) of the reference corresponds to claim component (D), not claim component (C) of the formula (I-1).

With regard to Takeuchi et al., the Examiner considers column 6, line 16 to column 7, line 10 as teaching claimed component (C). Manifestly, such is not the case. Component (C)

of Takeuchi et al. is a Lewis acid of formula (VIII), a magnesium compound or a zinc compound. Note that  $R^{12}$  in formula (VIII) of Takeuchi et al. is an alkyl group having 1 to 8 carbon atoms. Such radical clearly is not within the scope of the  $(R^1)_3\text{-C-radical}$  of the compound of the formula (I-1), as claimed. The ethyl group in diethoxy magnesium and diethyl zinc also disclosed by Takeuchi et al. similarly are not within the scope of claimed component (C) wherein in formula (I-1),  $R^2$  represents an alkyl group having at least two carbon atoms, such also not being within the scope of the claimed  $(R^1)_3\text{-C-radical}$ .

It is further to be noted that component (C) of Takeuchi et al. would correspond to claim component (D), and component (C).

With regard to Aoyama et al., the Examiner considers column 7, lines 21-67 of this reference to be pertinent with regard to claim component (C). Similarly here, as pointed out above with regard to Takeuchi et al., in the compounds of formula (VIII), (IX), and (X) of Aoyama et al., patentees do not disclose a radical  $(R^1)_3\text{-C-}$  as present and defined in claim component (C) inasmuch as  $R^{13}$  in this reference is disclosed to be an alkyl group having 1 to 8 carbon atoms. Here again, component (C) of Aoyama et al. would correspond to claim component (D).

As to Yabunouchi et al., U.S. 5,854,165 and 6,171,994, as so recognized by the Examiner, common inventors are involved. The Examiner specifically relies on column 20, lines 9-39 of 5,854,165 and col. 20, line 46 to col. 21, line 9 of 6,171,994 as assertedly teaching claim component (C). Here again, in formula (XVII)  $R^{15}_v\text{AlQ}_{3-v}$ , of these references Q is an alkoxy group having 1 to 20 carbon atoms, such radicals clearly not an aryl group having 6 to 20 carbon atoms, hydrogen or halogen corresponding to radical  $(R^1)_3\text{-C-Y}$  in claimed component (C).

As discussed with regard to Yabunouchi et al., above, the same is applicable to the rejection over Kashiwamura et al. Note column 18, line 56 to column 19, line 7 of this

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reference. Q in formula (XIII) of this reference being an alkoxy group having 1-20 carbon atoms, an aryl group, hydrogen or halogen, such radicals clearly not corresponding to  $(R^1)_3$ -C-Y in formula (I-1) of claim component (C). Here again, compound (C) of Kashiwamura et al. would correspond to claim component (D).

With regard to the obviousness-type double patenting rejections over Minami et al. and Yabunouchi U.S. 6,255,244, the following is submitted in traversal thereof. Here again, claim component (C) is not claimed by these references, nor obvious therefrom. Also, the alkylating agents (C) of the formula (11), (12) and (13) disclosed by Yabunouchi (column 23, line 65 to column 24, line 46) and by Minami et al. at col. 13, line 44 to column 14, line 33 do not include claim component (C),  $R^{23}$  in these formulas being an alkyl group having 1 to 8 carbon atoms which does not include substituent  $(R^1)_3$ -C- as claimed, nor is such radical obvious therefrom.

Accordingly, withdrawal of the rejection of the claims under 35 U.S.C. § 102 as well as for obviousness-type double patenting is requested.

It is submitted that this application is now in condition for allowance and which is solicited.

Respectfully submitted,

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